KIC 009149977

Q1-17 DR25 TCE Parameters

TCE	Run Type	KOI?	Period (Days)	Epoch (BKJD)	Depth (ppm)	Duration (Hours)	MES	SNR	$R_\star$ ($R_\odot$)	$T_\star$ (K)	R_p ($R_\oplus$)	S_p ($S_\oplus$)
009149977-01	OBS	No	4.649415	133.795941	167.9	1.594	7.3	6.6	1.19	6930	1.75	866.64

Robovetter Results

TCE	Run Type	Disp	Score	N	S	C	E	Comments
009149977-01	OBS	FP	0.00	1	0	0	0	LPP_ALT—MOD_NONUNIQ_ALT—CENT_FEW_DIFFS

Notes: OBS = Observed. INJ = Injected. INV = Inverted. SCR = Scrambled.
N = Not Transit-Like. S = Stellar Eclipse. C = Centroid Offset. E = Ephemeris Match.
See `http://exoplanetarchive.ipac.caltech.edu/docs/API_kepcandidate_columns.html#proj_disp_col` for comment definitions.

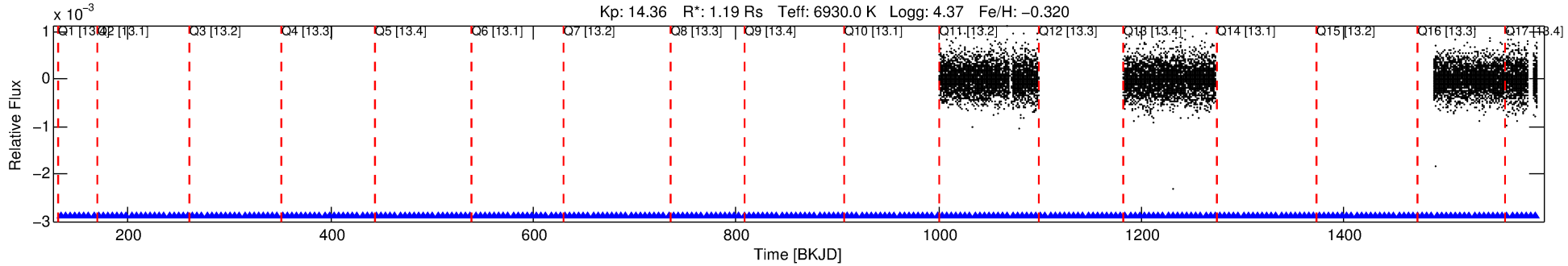
Ephemeris Match Information For 009149977-01

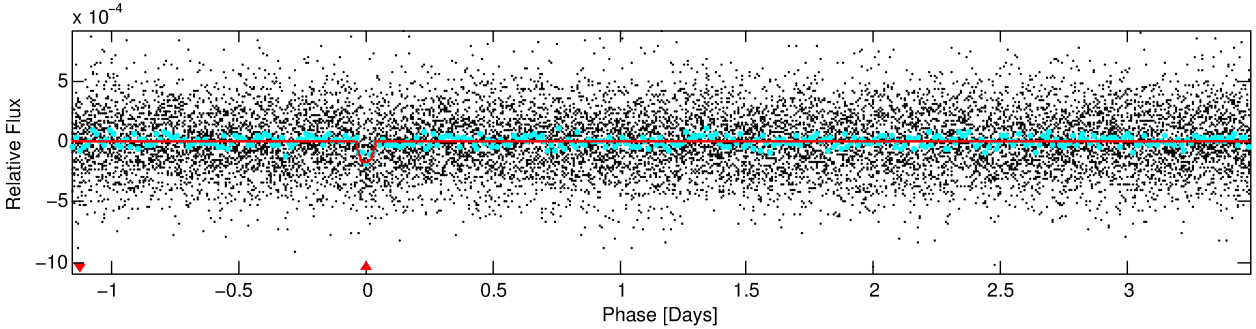
No Significant Match Found

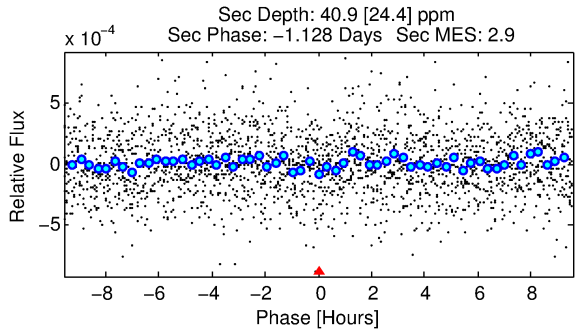
DV One-Page Summary

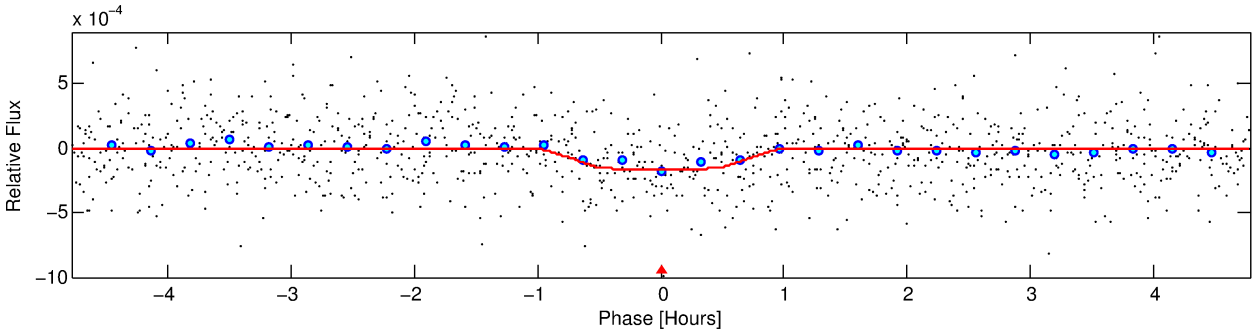
KIC: 9149977 Candidate: 1 of 1 Period: 4.649 d

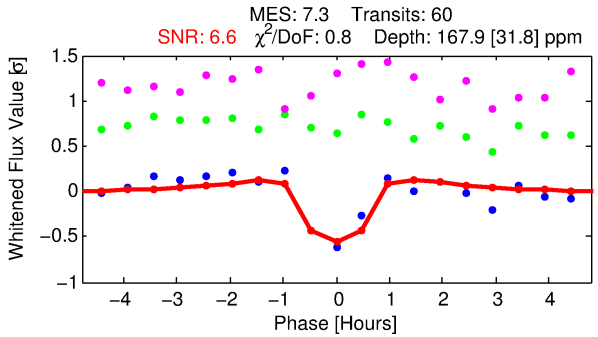
Kp: 14.36 R*: 1.19 Rs Teff: 6930.0 K Logg: 4.37 Fe/H: −0.320

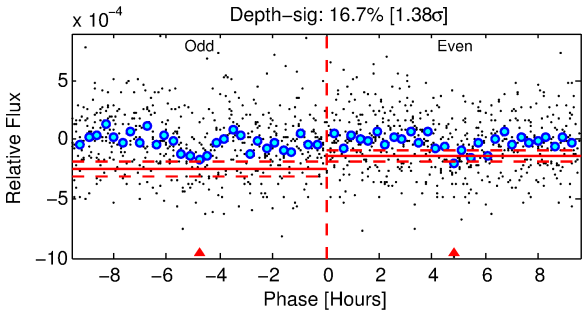


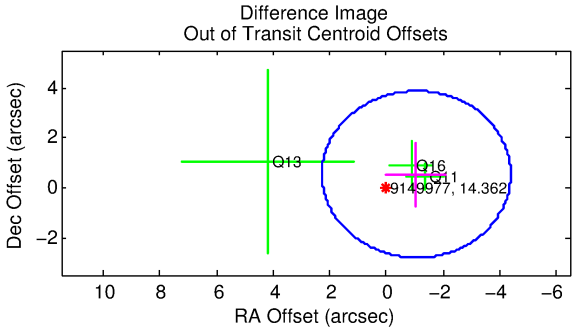












DV Fit Results:

Period = 4.64942 [0.00002] d
Epoch = 133.7959 [0.0041] BKJD
Rp/R* = 0.0135 [0.0111]
a/R* = 12.03 [59.12]
b = 0.86 [1.53]

Seff = 866.64 [363.70]
Teq = 1384 [145] K
Rp = 1.75 [1.55] Re
a = 0.0580 [0.0157] AU

Ag = 24.80 [44.32] [0.54σ]
Teffp = 4773 [2098] K [1.61σ]

DV Diagnostic Results:

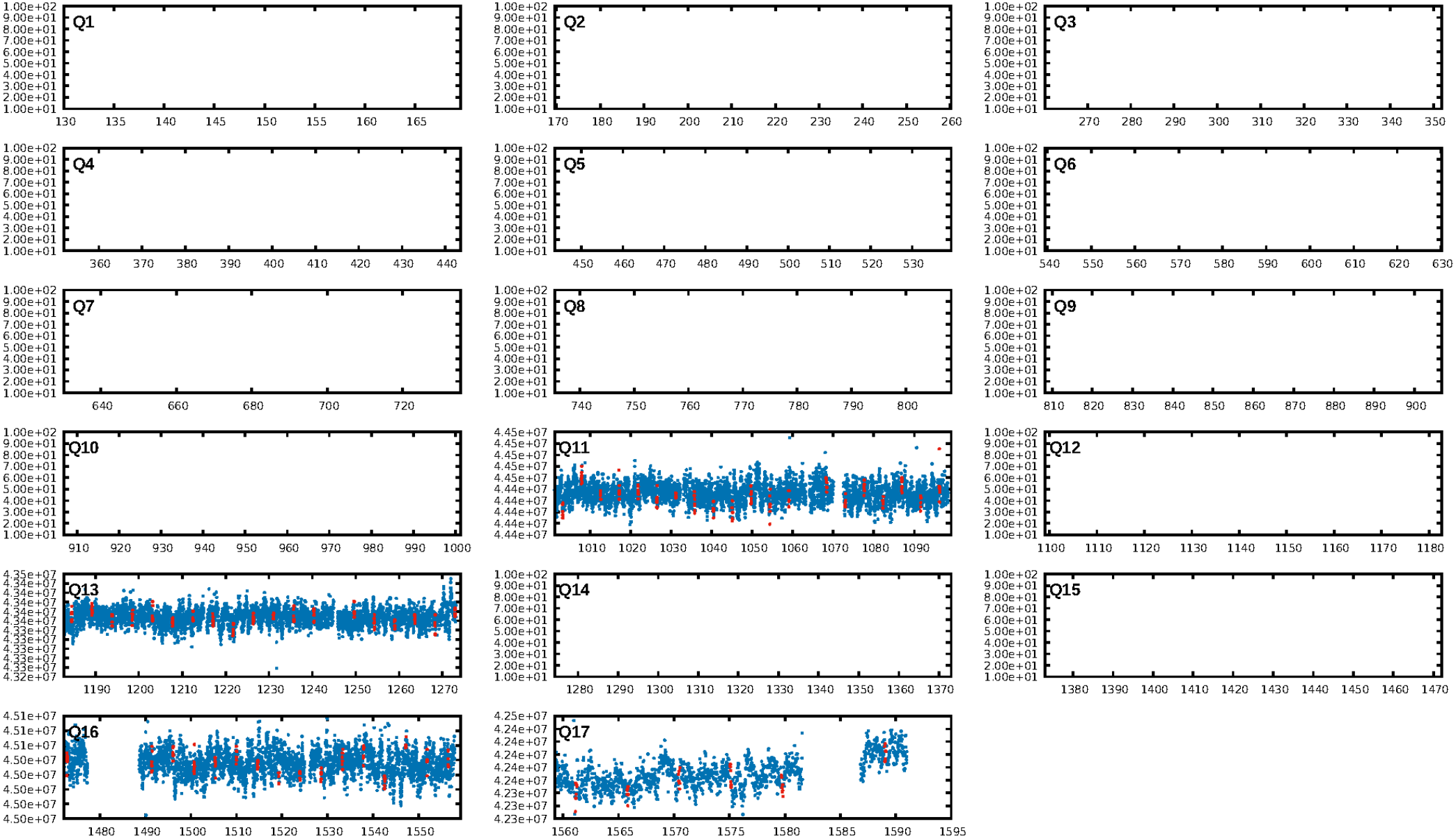
ShortPeriod−sig: N/A
LongPeriod−sig: N/A
ModelChiSquare2−sig: 99.3%
ModelChiSquareGof−sig: 100.0%
Bootstrap−pfa: 2.01e−13
RollingBand−fgt: 1.00 [54/54]
GhostDiagnostic−chr: −18.39

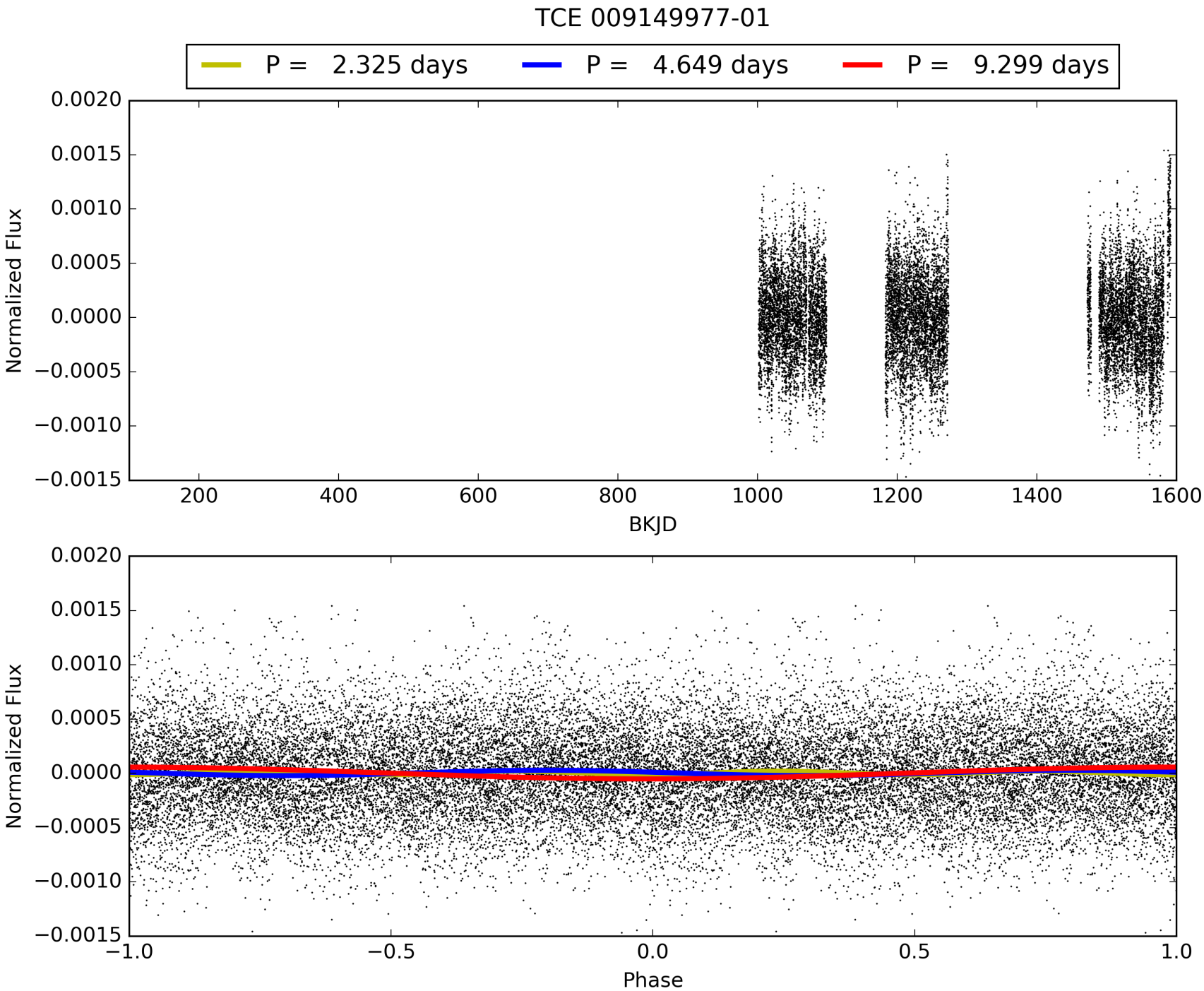
Centroid−sig: 7.1%
Centroid−so: 2.043 arcsec [1.41σ]
OotOffset−rm: 1.188 arcsec [1.07σ]
KicOffset−rm: 1.184 arcsec [1.04σ]
OotOffset−st: 0/1/1/1 [3]
KicOffset−st: 0/1/1/1 [3]
DiffImageQuality−fgm: 0.67 [2/3]
DiffImageOverlap−fno: 1.00 [4/4]

Software Revision: svn+ssh://murzim/repo/soc/tags/release/9.3.42@60958 −− Date Generated: 30−Jan−2016 15:47:18 Z

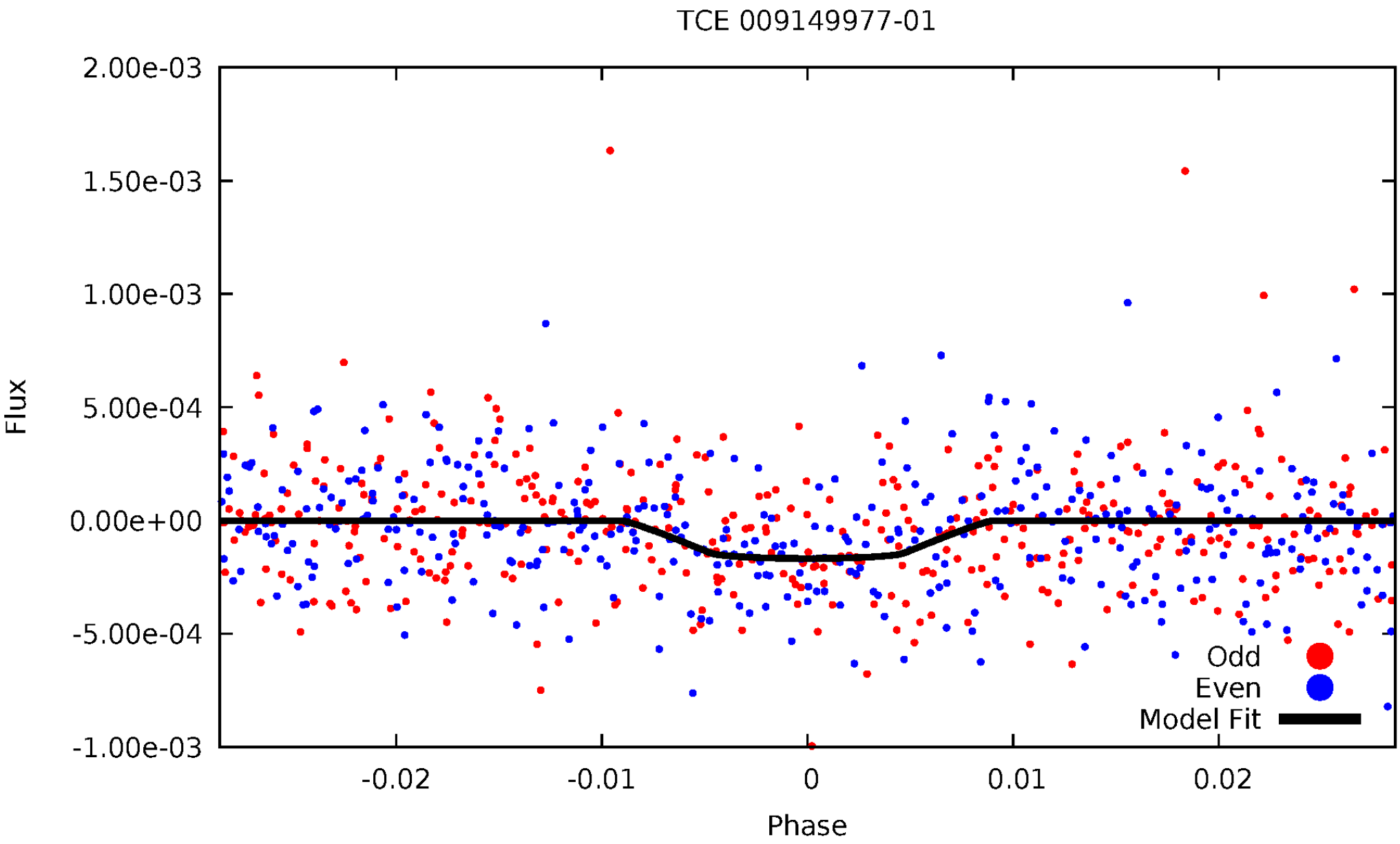
This Data Validation Report Summary was produced in the Kepler Science Operations Center Pipeline at NASA Ames Research Center

TCE 009149977-01, PDC Light Curves

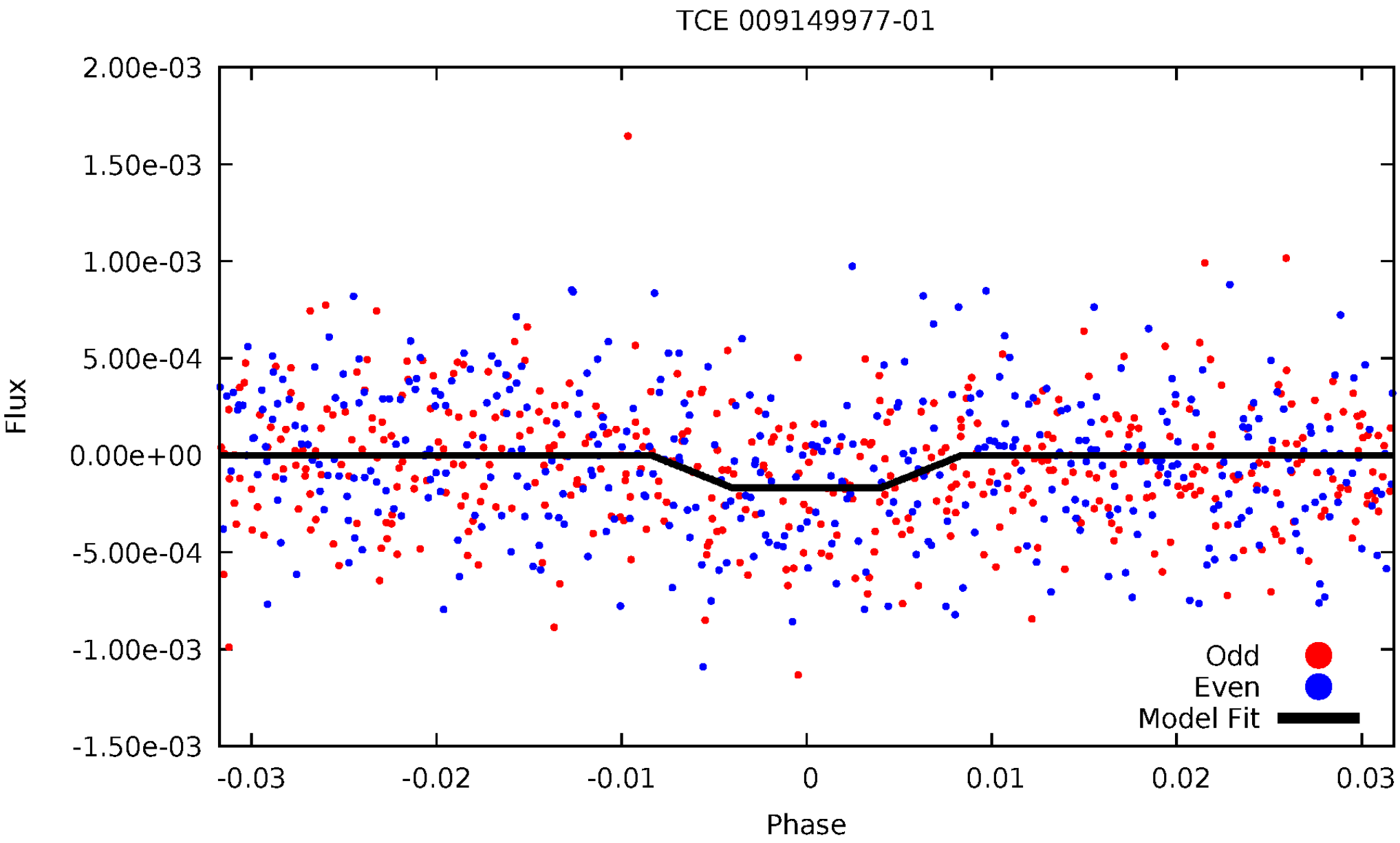



TCE 009149977-01
P = 2.325 days
P = 4.649 days
P = 9.299 days
Normalized Flux
BKJD
Normalized Flux
Phase

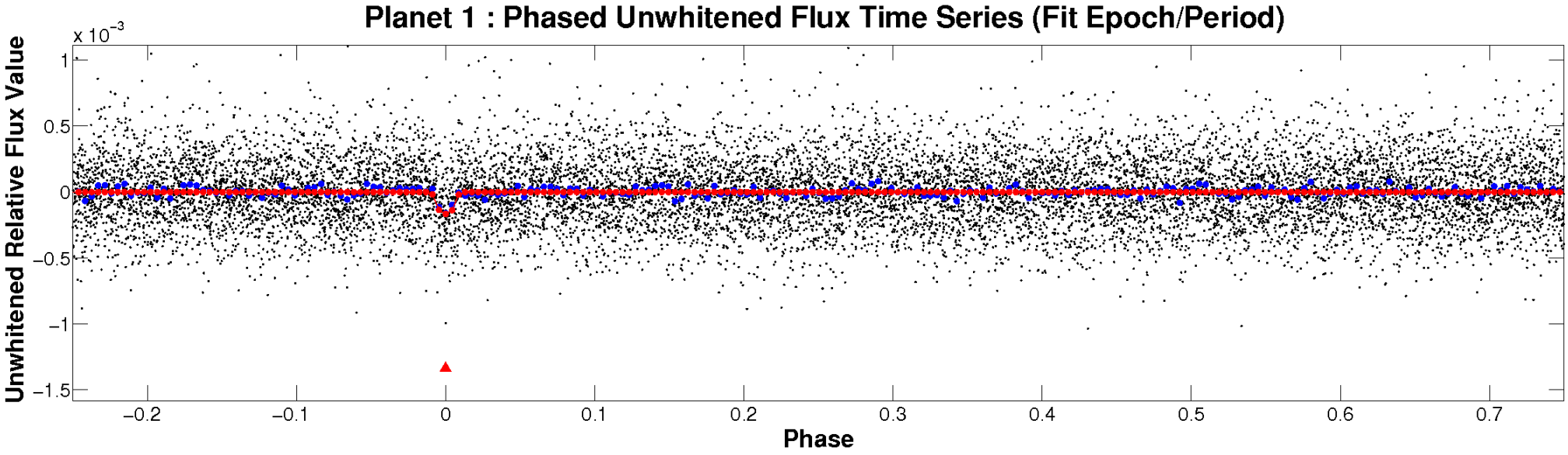
DV Odd/Even

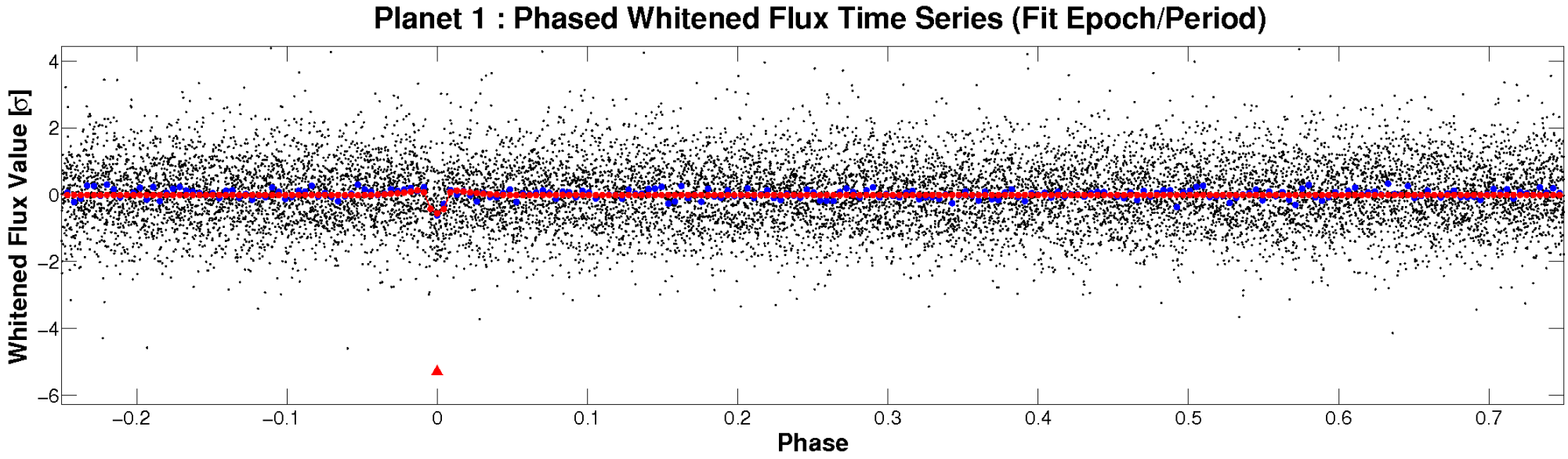

TCE 009149977-01
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
Flux
-0.02
-0.01
0
0.01
0.02
Phase
Odd
Even
Model Fit

ALT Odd/Even


TCE 009149977-01
2.00e-03
1.50e-03
1.00e-03
5.00e-04
0.00e+00
-5.00e-04
-1.00e-03
-1.50e-03
Flux
-0.03
-0.02
-0.01
0
0.01
0.02
0.03
Phase
Odd
Even
Model Fit

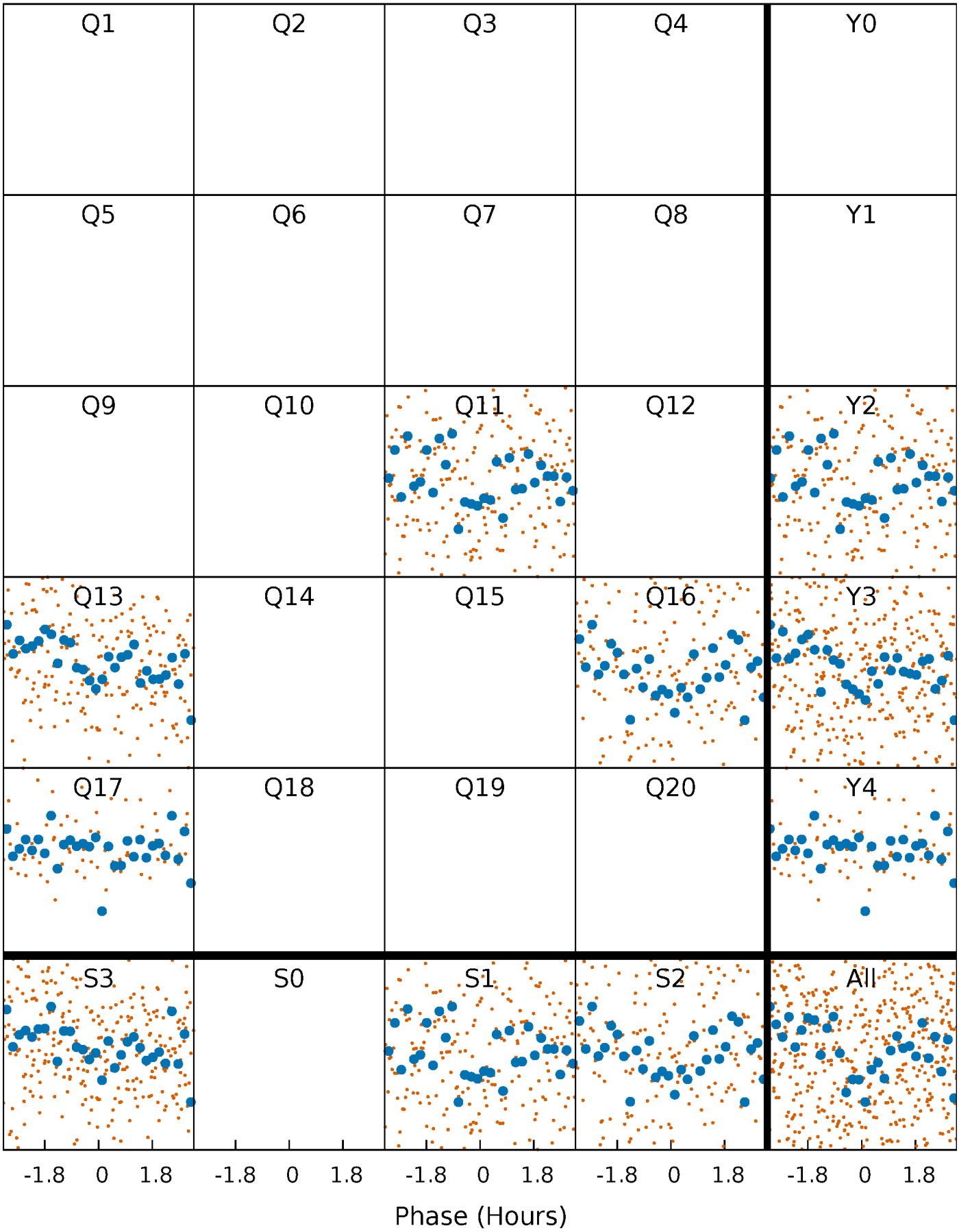
Non-Whitened Vs. Whitened Light Curve





PDC Quarter-Phased Transit Curves

TCE 009149977-01 P= 4.649415 Days T_0=133.795941 (BKJD)

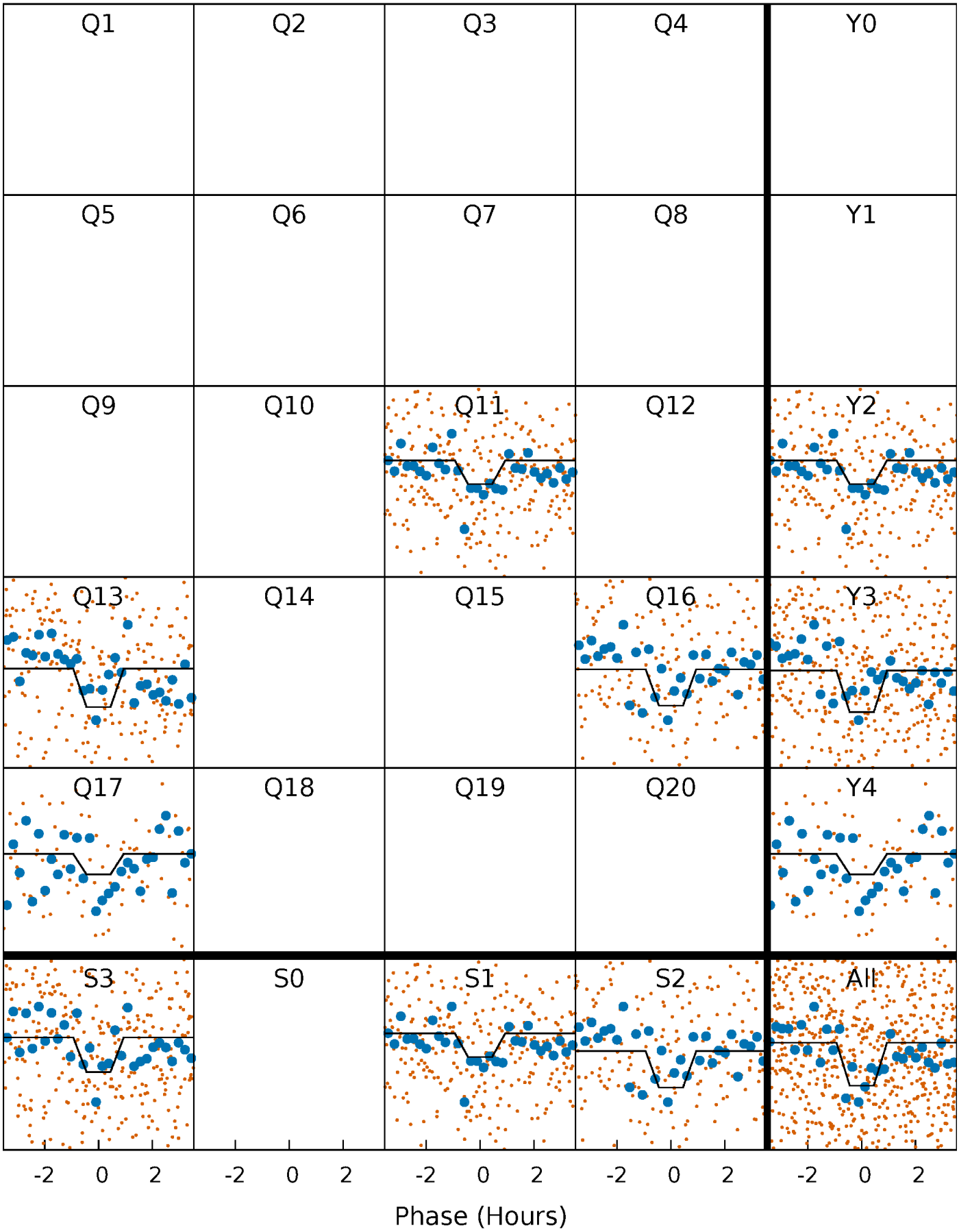


DV Quarter-Phased Transit Curves

TCE 009149977-01 P= 4.649415 Days T_0=133.795941 (BKJD)

Alt. Detrend Quarter-Phased Transit Curves

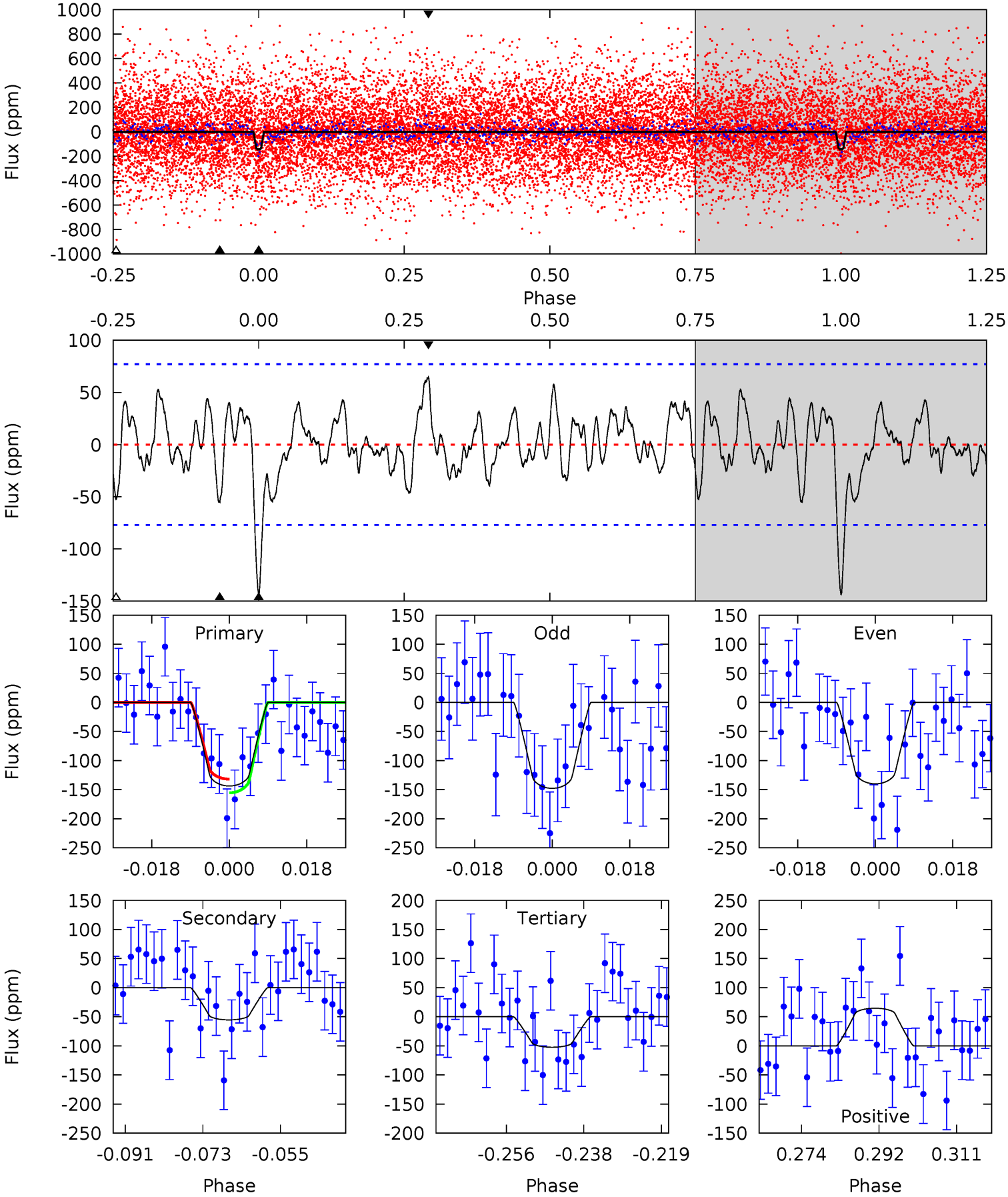
TCE 009149977-01 P= 4.649443 Days T_0=133.790368 (BKJD)



DV Model-Shift Uniqueness Test

009149977-01, P = 4.649415 Days, E = 133.795941 Days

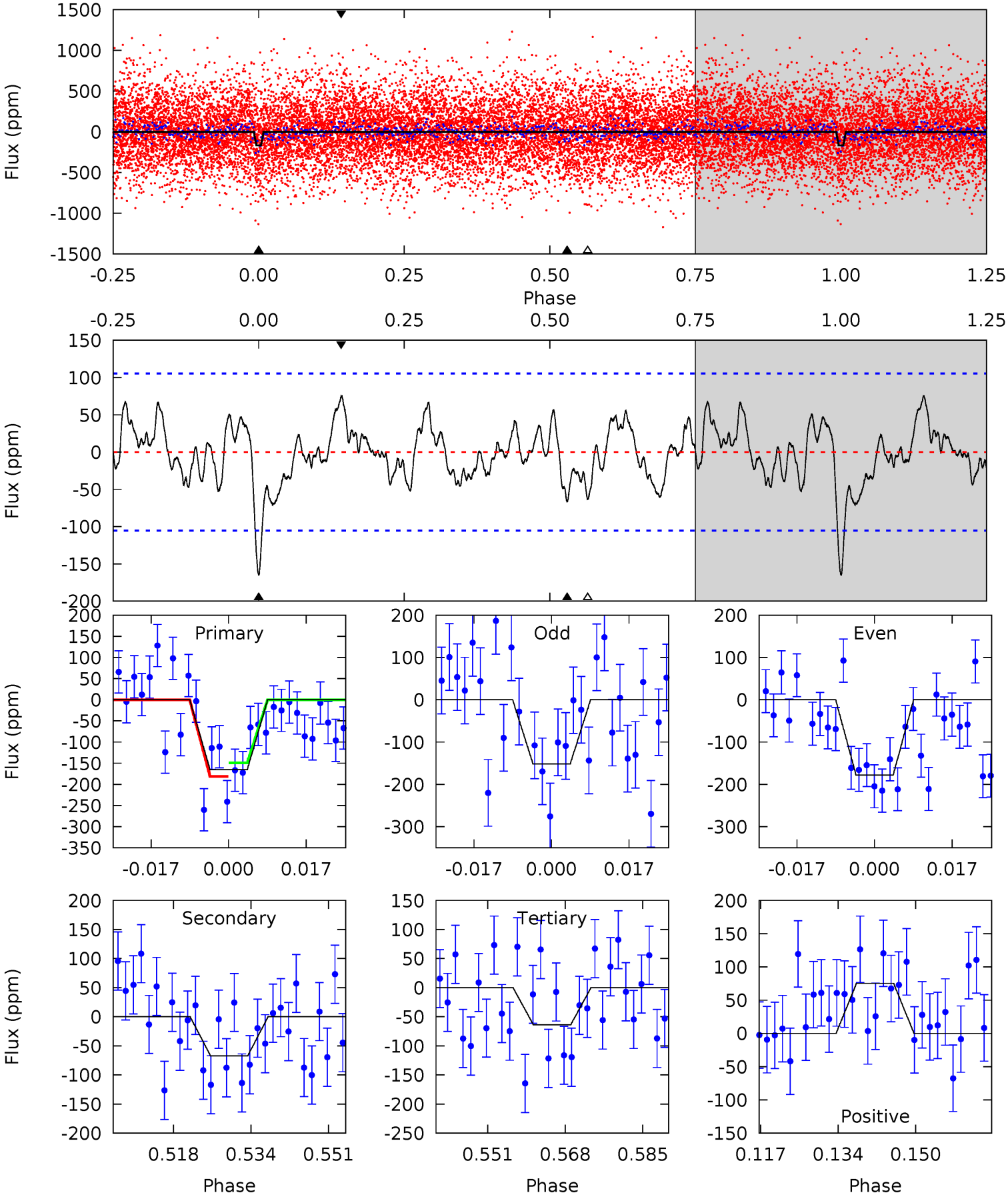
Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
9.15	3.52	3.33	4.12	4.91	2.36	1.47	5.82	5.04	0.19	-0.59	0.25	0.92	0.31	0.75



Alt Model-Shift Uniqueness Test

009149977-01, P = 4.649443 Days, E = 133.790368 Days

Pri	Sec	Ter	Pos	FA_1	FA_2	F_{Red}	Pri-Ter	Pri-Pos	Sec-Ter	Sec-Pos	Odd-Evn	DMM	Shape	TAT
7.74	3.14	2.99	3.52	4.93	2.39	1.46	4.74	4.22	0.15	-0.38	0.61	1.55	0.31	0.75



Stellar Parameters For KIC 009149977

	$T_{\rm eff}(K)$	$\log(g)$	[Fe/H]	R ($R_\odot$)	$M(M_\odot)$	$p_\star$ (g·cm^{-3})
	6930^{+191}_{-327}	$4.369^{+0.065}_{-0.195}$	$-0.320^{+0.250}_{-0.350}$	$1.188^{+0.402}_{-0.134}$	$1.219^{+0.178}_{-0.160}$	$1.025^{+0.286}_{-0.533}$
	+3%/-5%	+1%/-4%	+78%/-109%	+34%/-11%	+15%/-13%	+28%/-52%
Source	KIC0	KIC0	KIC0	DSEP		

KIC = Kepler Input Catalog; PHO = Photometry; SPE = Spectroscopy; AST = Asteroseismology
TRA = Transits; DESP = Dartmouth Models; MULT = Multiple Models

Secondary Eclipse Parameters for KIC 009149977-01 / KOI

Detrend	Depth (ppm)	R_p ($R_\oplus$)	T_{max} (K)	T_{obs} (K)	A_{obs}
DV	-55±16	$2.10^{+1.46}_{-1.34}$	1964^{+142}_{-113}	4902^{+3014}_{-969}	24^{+147}_{-16}
Alt.	-67±21	$1.94^{+1.43}_{-1.15}$	1953^{+144}_{-102}	5174^{+3355}_{-1072}	31^{+161}_{-21}

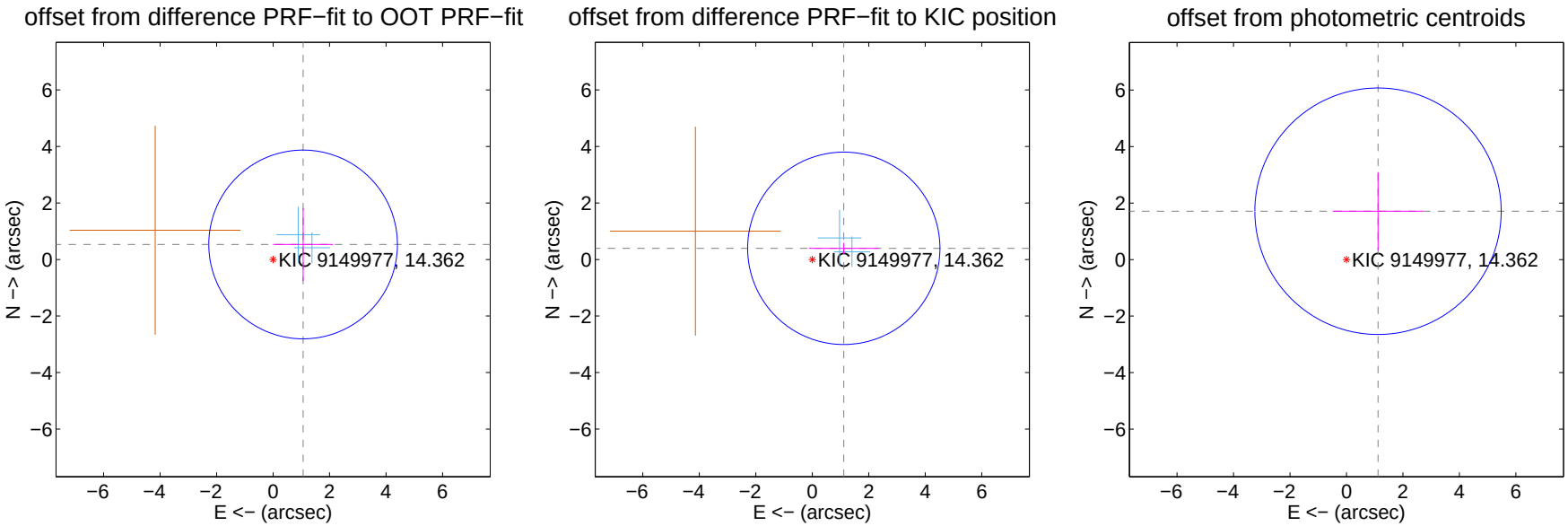
T_{max} = Theoretical Maximum Planetary Temperature
T_{obs} = Observed Planetary Temperature (Assuming A=0.3)
A_{obs} = Observed Albedo (Assuming T=0)

If a secondary eclipse is present, the system is likely an EB if $T_{obs} \gg T_{max}$ AND $A_{obs} \gg 1.0$

DV Centroid Data

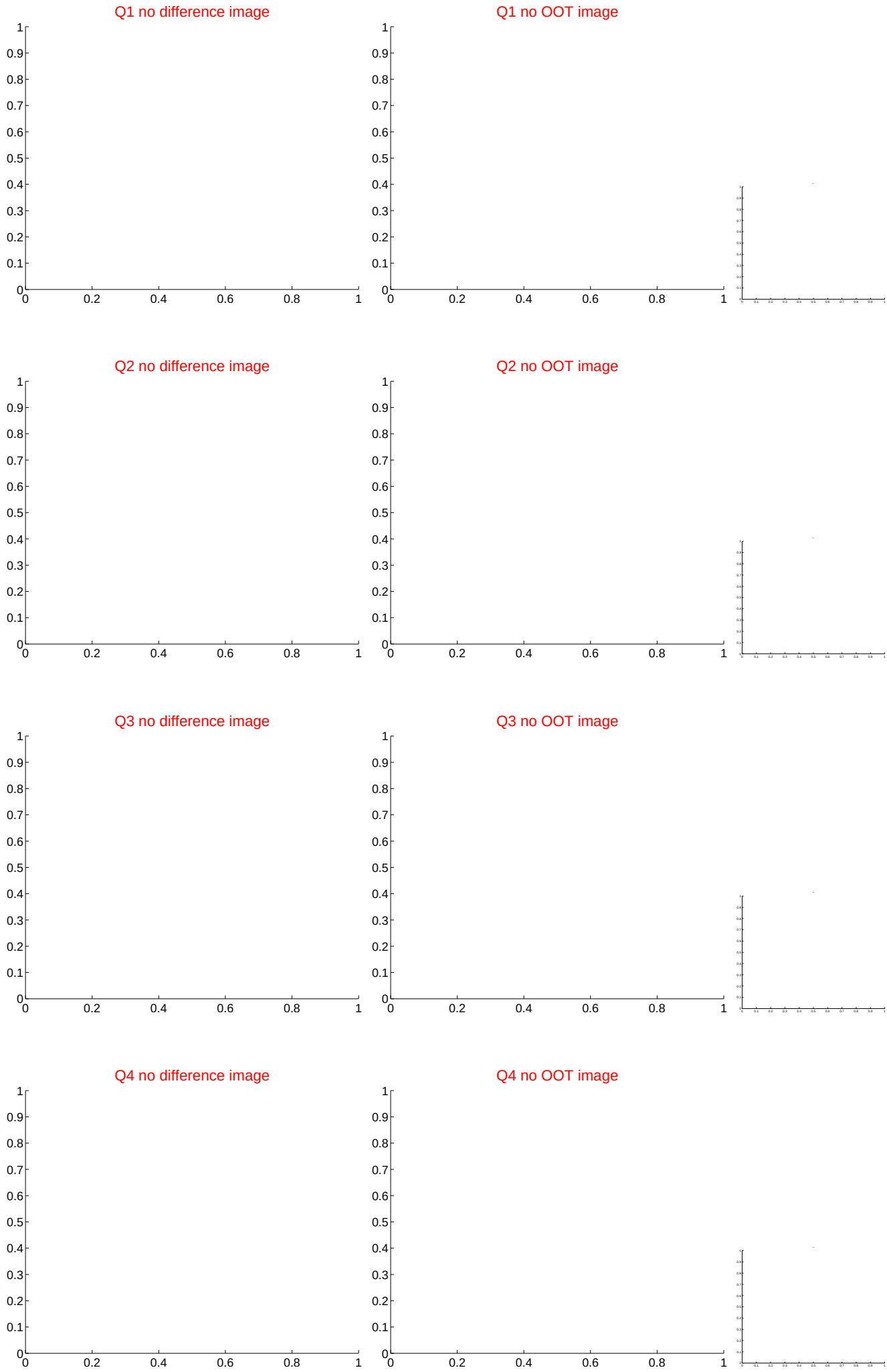
Supplemental centroid analysis for 009149977-01. Kepler magnitude: 14.36. Transit SNR 6.64
There are 2 quarters with good PRF difference image offsets
The direct PRF centroid is offset from the target star catalog position by about 0.14 arcsec

	Distance in arcsec	Distance / σ	Δ RA	Δ Dec
PRF-fit source offset from OOT	1.188 ± 1.113	1.07	-1.063 ± 1.064	0.532 ± 1.290
PRF-fit source offset from KIC position	1.184 ± 1.135	1.04	-1.116 ± 1.239	0.396 ± 0.190
photometric centroid source offset	2.04 ± 1.45	1.41	-1.12 ± 1.60	1.71 ± 1.39

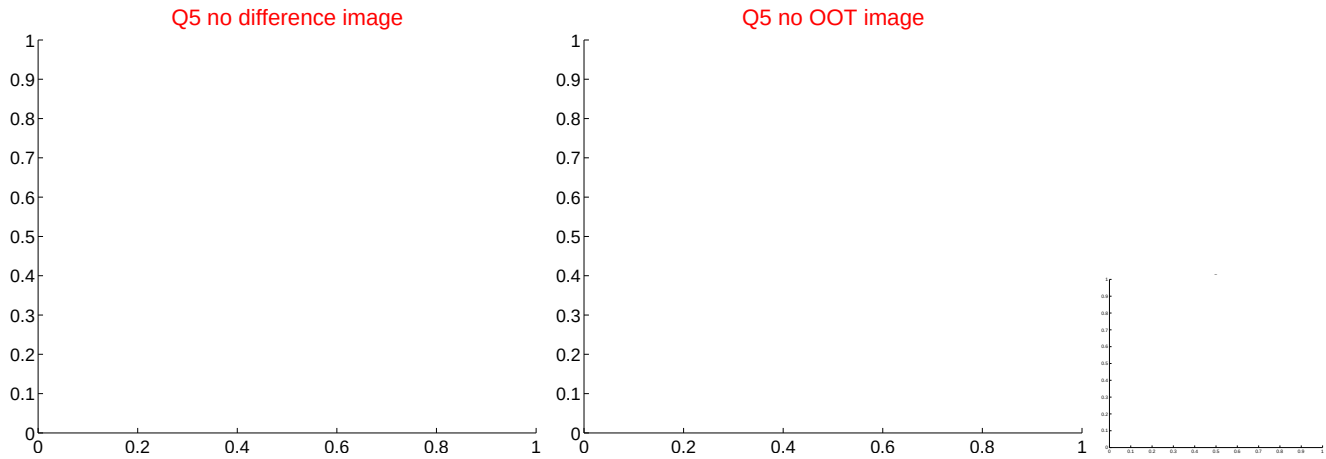


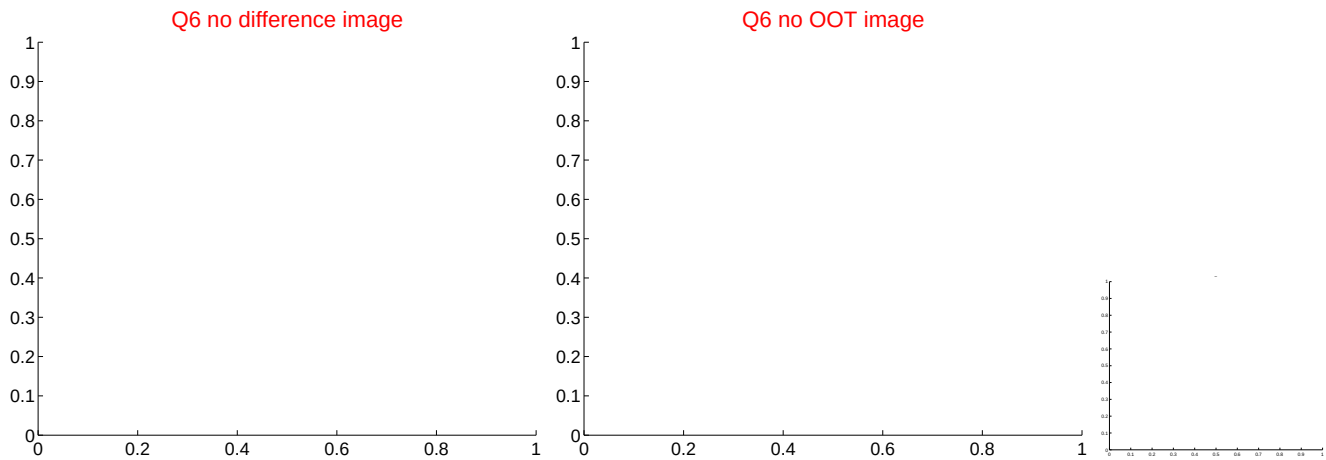
Centroid source offsets from the target star reconstructed from PRF and photometric centroids. Sky blue crosses: good quarterly centroid offsets; Vermillion crosses: bad quarterly centroid offsets; magenta cross: average over quarters. Length of the crosses: one-σ uncertainty. Blue circle: three-σ. Red *: target star. Blue *: Other stars. Text next to a star gives its KIC ID and kepmag. KIC IDs $> 15,000,000$ are from the UKIRT catalog.

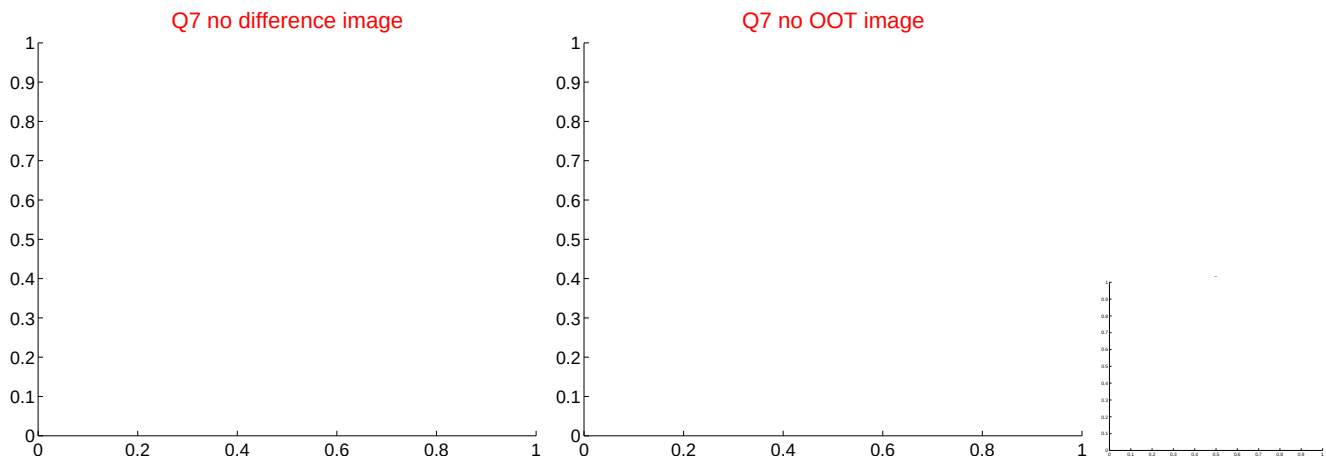
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

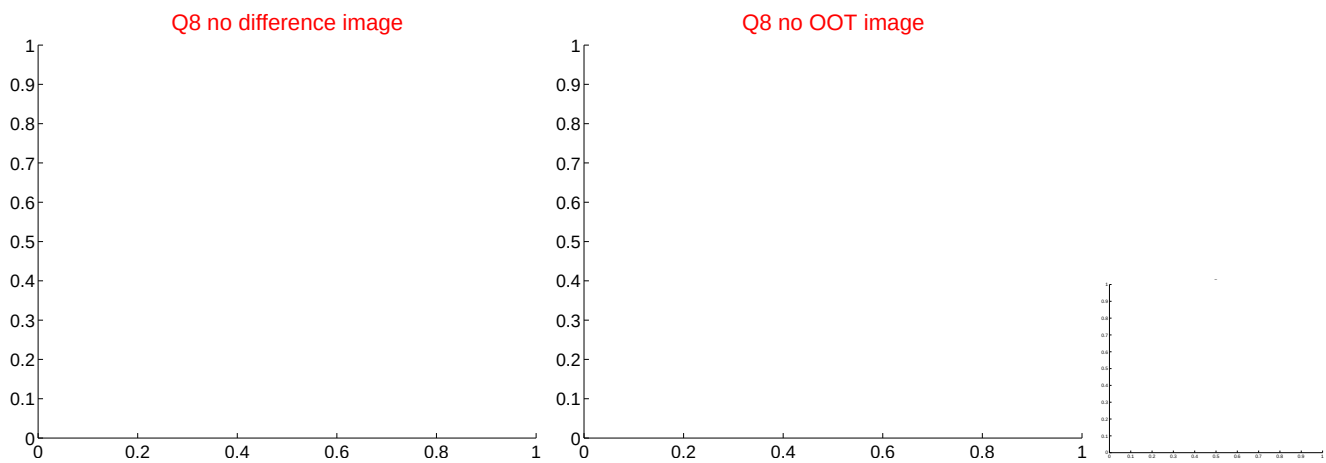


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

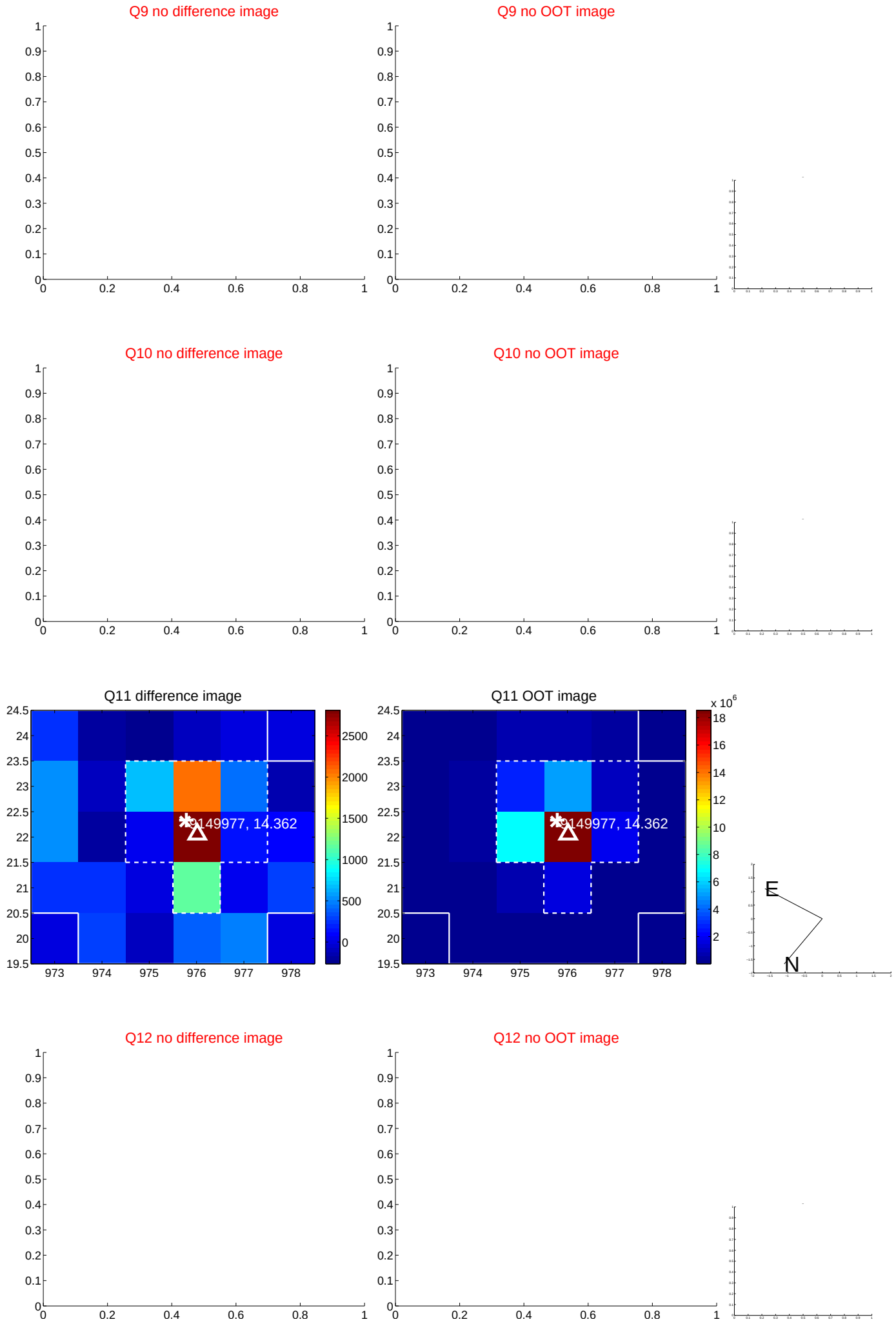




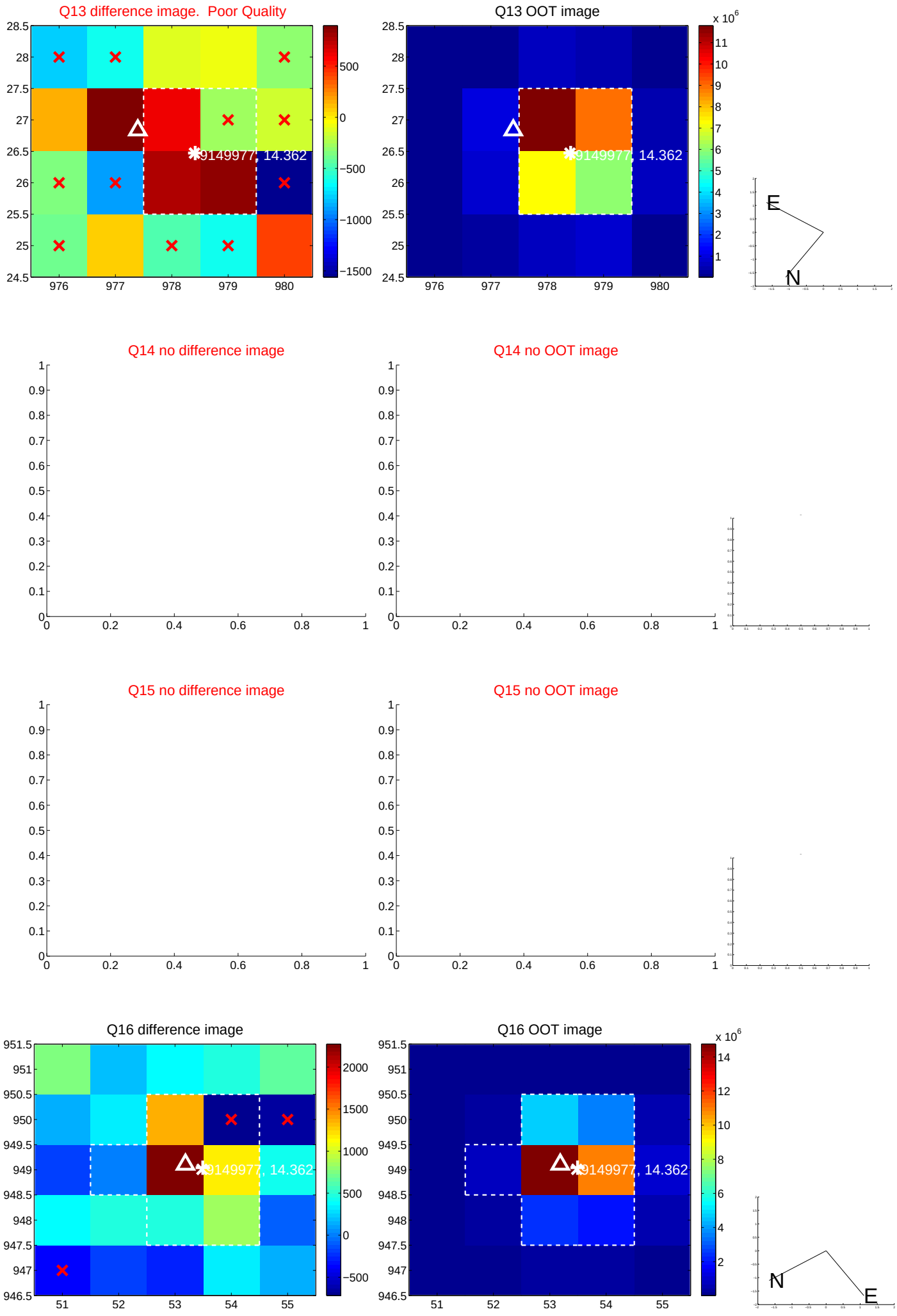




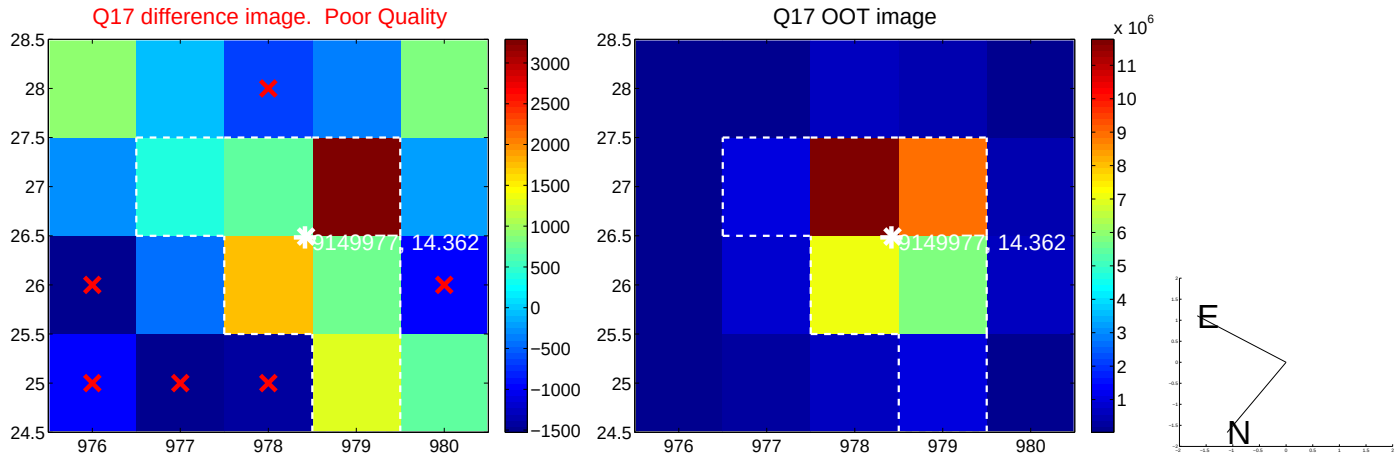
white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

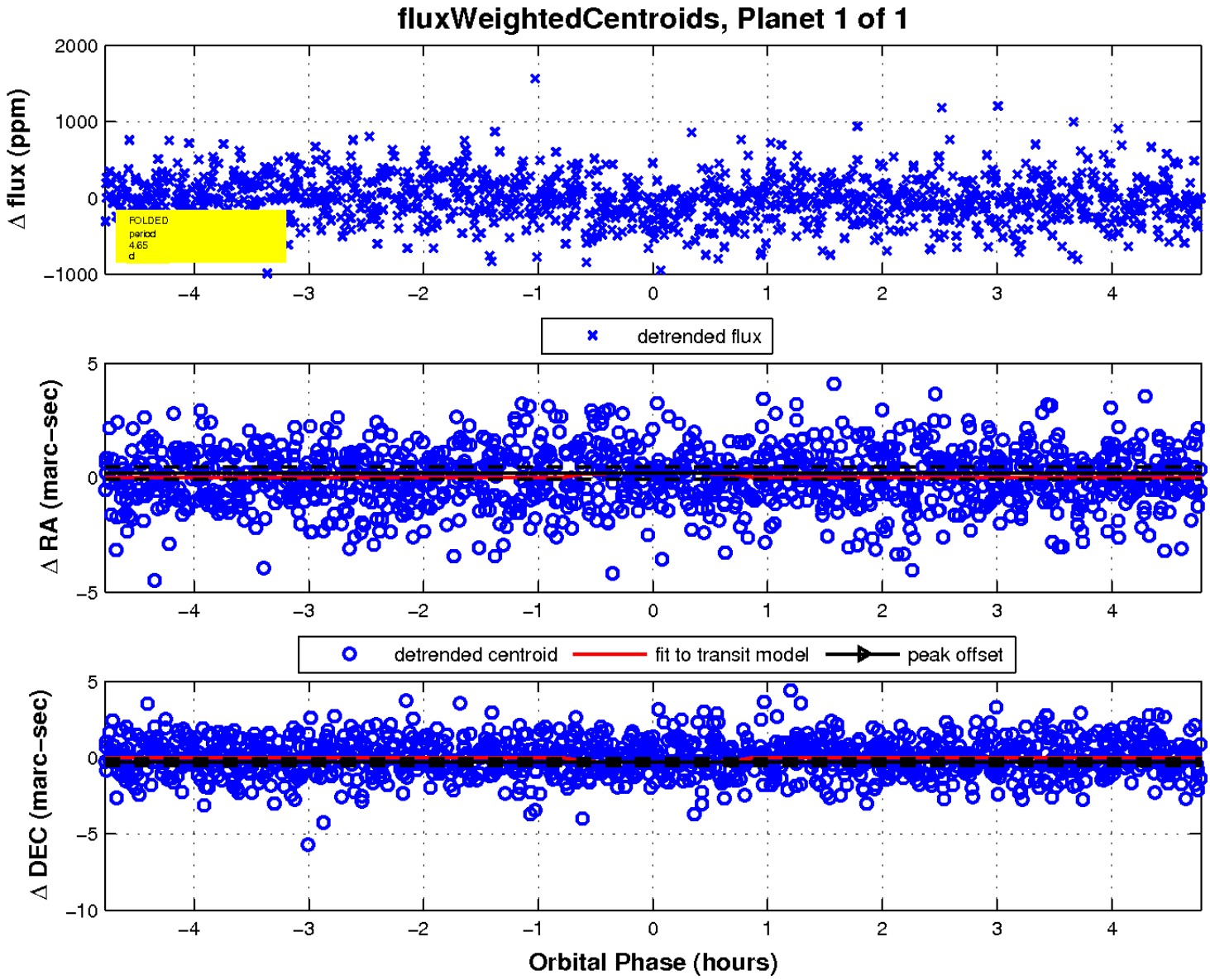


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.

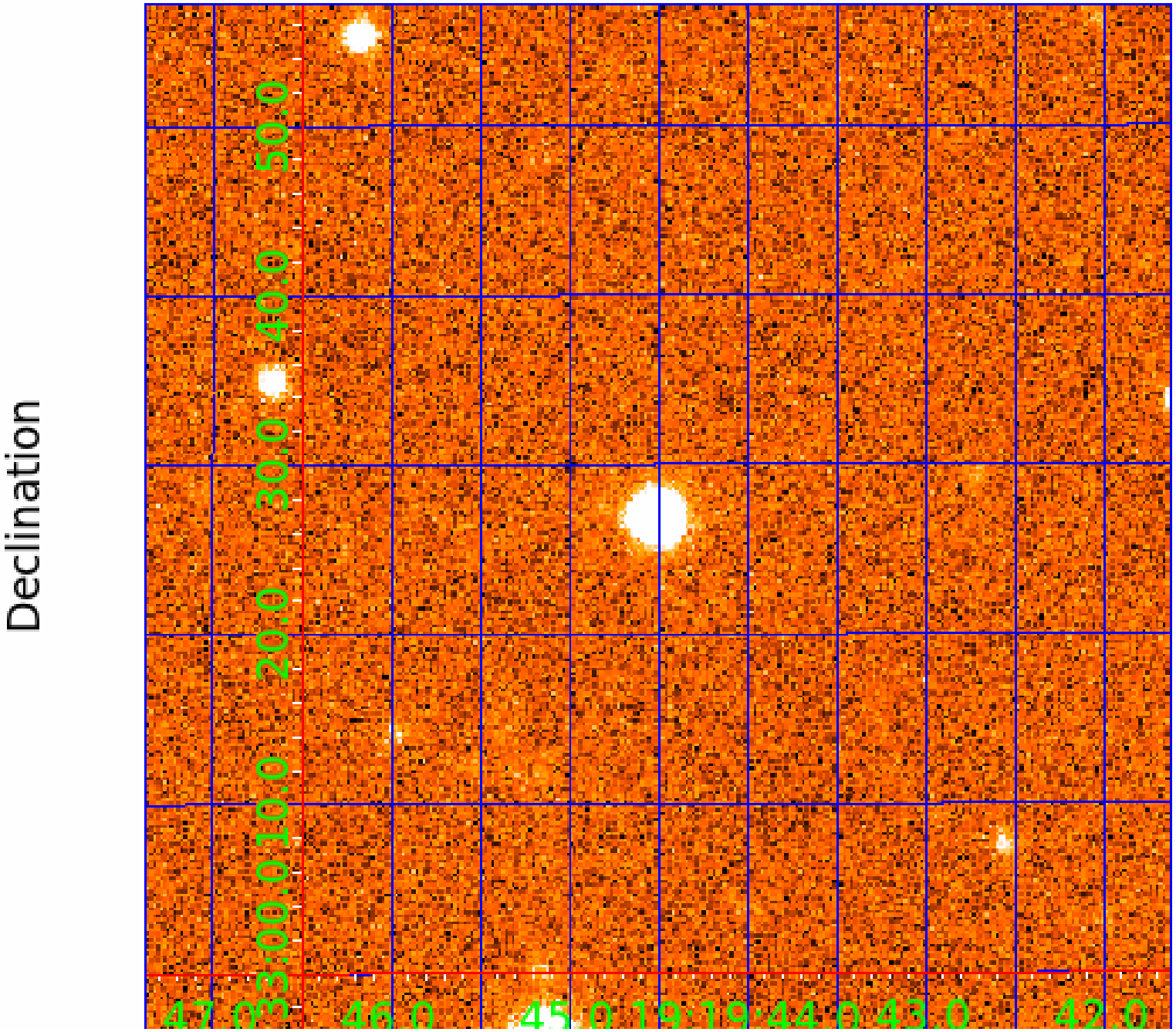


white ×: KIC target position; +: OOT centroid; △: difference centroid. red ×: large negative pixel value.





UKIRT Image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